STOKEY, A. G. 1960. Multicellular and branched hairs on the fern gametophyte. Amer. Fern J. **50**: 78–87.

DEPARTMENT OF BOTANY, UNIVERSITY OF LUCKNOW, LUCKNOW, INDIA.

Ferns New to Illinois

ROBERT H. MOHLENBROCK

During the preparation of a treatment of the ferns for the first volume of a projected illustrated flora of Illinois,[1] a rather remarkable number of ferns and fern allies previously unreported from Illinois were discovered. Some of the new records are the result of extensive field work throughout the state during the last few years, while others were discovered through intensive searches of various herbaria in the country. Eight species and two varieties are reported in this paper for the first time from Illinois. Unless otherwise indicated, all specimens cited are mine and are deposited in the herbarium of Southern Illinois University.

BOTRYCHIUM BITERNATUM (Sav.) Underw.

This evergreen fern, which is distinguished from *B. dissectum* by its sharply serrate pinnules and its membranous blades which remain green during the winter, was discovered growing near the base of an open hillside in Little Grand Canyon, nine miles southwest of Murphysboro, Jackson County, on August 10, 1963 (*15150*). Associated species included a few specimens of *B. dissectum* var. *obliquum*. The dominant trees of the lower slope were white oak and beech. This is the species which in the past has been known mostly as *B. obliquum* var. *tenuifolium*, but Wagner[2] has given reasons for recognizing it as a species, in which case the correct name is *B. biternatum*.

---

[1]Amer. Fern J. **56**: 37. 1966.

[2]Taxon **10**: 165–169. 1961.

PTERIDIUM AQUILINUM (L.) Kuhn var. PSEUDOCAUDATUM (Clute) Heller

Although *P. aquilinum* var. *latiusculum* is rather common throughout the state, var. *pseudocaudatum* was unknown from Illinois until its collection from the edge of an oak woods one mile north of Elizabethtown, Hardin County, on August 14, 1963 (*Mohlenbrock s.n.*). However, the occurrence of this variety was to be expected in Illinois, since it is known from the adjacent states of Indiana and Missouri. These two varieties are rather difficult to distinguish; var. *pseudocaudatum* can be distinguished by the rhizome always having a tuft of brown hairs at the growing tip. A subsidiary character is that the ultimate leaf segments are smaller than in var. *latiusculum*, measuring up to 4.5 mm broad, and the margins are glabrous.

DRYOPTERIS × BOOTTII (Tuckerm.) Underw.

This handsome fern was discovered in a deep, mesic ravine in Matthiesen State Park, La Salle County, on June 13, 1962 (*14973*). It is a sterile hybrid between *D. intermedia* and *D. cristata*. The aborted spores indicate its hybrid nature. *Dryopteris boottii* differs from *D. cristata* by its glandular indusium and from *D. intermedia* by its leaf broadest near the middle rather than near the base. One of the parents, *D. intermedia*, grows in the vicinity. This is primarily a northeastern plant, which has been recorded from as close as Indiana.

DRYOPTERIS × TRIPLOIDEA Wherry

This is considered to be a hybrid between *D. intermedia* and *D. spinulosa*; once again the aborted spores indicate its hybrid nature. It differs from *D. spinulosa* in its glandular indusium and from *D. intermedia* by its short-creeping rhizome and its pinnae ascending rather than at right angles to the rachis. It was collected in a damp woods near Barrington, Lake County, on June 14, 1962 (*14988*).

ATHYRIUM FILIX-FEMINA (L.) Roth var. ASPLENIOIDES (Michx.) Farw.

This, one of the most handsome ferns in the state of Illinois, is

considered by some authors to be a distinct species, but there are apparently too many intermediate specimens between it and var. *rubellum* to justify this. It differs from var. *rubellum* in its eglandular rachis, glandular indusium, and petiole which is about as long as the blade. The specimen was found along a moist sandstone cliff two miles east of Makanda, Giant City State Park, Union County (*R. M. Tryon s.n.* (MO)).

ASPLENIUM × GRAVESII Maxon.

There are several hybrid spleenworts known from Illinois, this one being a hybrid between *A. pinnatifidum* and *A. bradleyi*. The all-green rachis and the several pairs of distinct lower pinnae distinguish it from the parents. The spores are abortive. Both parents occur where the hybrid is found. This specimen was collected in a crevice of a sandstone cliff in Panther's Den, Union County, in 1960 (*R. R. MacMahon s.n.*, originally identified as *A. pinnatifidum*).

ASPLENIUM × TRUDELLII Wherry.

An even rarer hybrid spleenwort is *A.* × *trudellii*, which is very similar to *A.* × *gravesii* except that the petiole is brown for only half its length. Its spores are abortive. The parents of this hybrid are *A. pinnatifidum* and *A. montanum*. This hybrid is completely unexpected from Illinois since one of the parents, *A. montanum*, is unknown from the state. This specimen, which has been verified by Dr. Warren H. Wagner, Jr., was found on sandstone cliffs in Giant City State Park in 1871 (*G. H. French 3719*, originally identified as *A. pinnatifidum*).

CYSTOPTERIS × TENNESSEENSIS Shaver.

This hybrid between *C. fragilis* var. *protrusa* and *C. bulbifera* is the same as *C. fragilis* f. *simulans* Weatherby. It is known from Champaign County.

AZOLLA CAROLINIANA Willd.

Although *A. mexicana* is found occasionally in Illinois, there is only a single collection of *A. caroliniana*, from a pond in St. Clair County (*J. Neill s.n.* (MO)). *Azolla caroliniana* differs by lacking cross-walls in its glochidia. It is rather smaller.

EQUISETUM × LITORALE Kuhl.

This horsetail is a hybrid between *E. arvense* and *E. fluviatile*. The spores are abortive. Specimens are known from two counties in northern Illinois, have been deposited in the herbarium of the University of Illinois, and were verified by Dr. Warren H. Wagner, Jr.

BOTANY DEPARTMENT, SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE, ILLINOIS 62901.

Shorter Note

THE USE OF CLIMBING FERN, LYGODIUM, IN WEAVING.—It is well known among ethnobotanists that the dark, polished stems of maidenhair, *Adiantum pedatum*, and probably other species, have been used for ornamenting baskets woven by the Indians of western North America, but perhaps it has not been reported that the climbing fern, *Lygodium salicifolium* Presl, is similarly used in southeastern Asia. The rhachis of this fern is rather coarse, normally 1.5 to 2 mm. in diameter, and it may reach extraordinary lengths, up to 40 feet it is said on good authority. Mr. Hugh M. Smith reports that at Patalung in southern Thailand these rhachises are used not just for ornamenting baskets but as the primary weaving material.

The stems of this climbing fern, which is known there locally as "Ya li pao," are dried in the sun, after being stripped of their leaves. They dry various shades of color, and therefore no dyes are needed for weaving patterns. Only the outer part of the stem, which is evidently quite flexible, is employed. This is split into as many pieces as may be required, usually two, three, or four, according usually to the size of the stem.

The weaving of artistic baskets is dying out because of the great amount of time required, for a man needs three or four weeks to complete even a small basket such as that shown in the accompanying illustration (*Fig.2*). Most of the weaving is perhaps now done by prisoners, who possibly find that time is one of the things they have most of.